

REMARKS

Claims 1-35 were pending in the application at the time the present Office Action was mailed. No claims have been added, cancelled, or amended by this response. Accordingly, claims 1-35 remain pending in the present application.

In the present Office Action, the Examiner rejected claims 1-35 and objected to claim 14. More specifically, the status of the claims in light of the Office Action is as follows:

(A) Claim 14 was objected to and rejected under 35 U.S.C. § 112, second paragraph;

(B) Claims 1-8 and 14-35 were rejected under 35 U.S.C. § 102(b) as being anticipated by Investigation Update into the Fire Onboard Air Canada Flight 116, as reported on <http://www.iasa.com.au/folders/menu/index.htm> (International Aviation Safety Association, established by Mrs. Lyn S. Romano, March 4, 1999), report dated May 24, 2002, incident dated May 13, 2002, investigation no. A02O0123 (the reference herein identified as "A02O0123"); and

(C) Claims 9-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over A02O0123.

First and foremost, the undersigned attorney wishes to thank the Examiner for engaging in telephone interviews on November 8 and November 9, 2005, to discuss the present Office Action and the cited reference.

A. Response to the Section 112 Rejection and Objection of Claim 14

Claim 14 was rejected as being indefinite because the Examiner asserts that the process of actuating a first portion of the fire suppression system over a first period of time requires a mention of a rate at which the suppressant is released. Applicant respectfully

disagrees. 35 U.S.C. § 112 requires that the specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. MPEP § 2171 clarifies that the standard under Section 112 for determining whether a claim particularly points out and distinctly claims the metes and bounds of the claimed subject matter is "whether the scope of the claim is clear to a hypothetical person possessing the ordinary level of skill in the pertinent art. MPEP § 2173.02 further clarifies that

If the language of the claim is such that a person of ordinary skill in the art could not interpret the metes and bounds of the claim so as to understand how to avoid infringement, a rejection of the claim under 35 U.S.C. 112, second paragraph, would be appropriate. See *Morton Int'l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470, 28 USPQ2d 1190, 1195 (Fed. Cir. 1993). However, if the language used by applicant satisfies the statutory requirements of 35 U.S.C. 112, second paragraph, but the examiner merely wants the applicant to improve the clarity or precision of the language used, the claim must not be rejected under 35 U.S.C. 112, second paragraph, rather, the examiner should suggest improved language to the applicant.

MPEP § 2173.02

Applicant respectfully submits that claim 14 is sufficiently definite as written. The claim is directed to a fire-suppression system that has, *inter alia*, a controller coupled to at least one fire-suppressant vessel and being "configured to cause discharge of a first portion of the fire suppressant into the cargo compartment over a first period of time upon activation of the fire-suppression system." This statement is definite and sufficiently clear so that a hypothetical person possessing the ordinary level of skill in the pertinent art would understand the metes and bounds of the claim and understand how to avoid infringement. There is no need nor requirement that applicant further limit the claim to specifically require that the controller be configured to discharge a first portion of the fire suppression system into the cargo compartment at a first rate. Therefore, Applicant respectfully submits that the language set forth in claim 14 clearly satisfies the statutory requirement of 35 U.S.C. § 112.

Regarding the objection to claim 14, Applicant respectfully submits that the specification clearly supports the language as set forth in claim 14. For example, the undersigned attorney directs the Examiner's attention to paragraph [0015] in the specification. In view of the above, Applicant respectfully requests that the objection to claim 14 be withdrawn.

B. Response to the Section 102 and 103 Rejections

Claims 1-8 and 14-35 were rejected under 35 U.S.C. § 102(b) being anticipated by A02O0123. This reference is an investigation report about a fire incident onboard Air Canada flight 116. The reference is directed to an event involving a fire condition that occurred in the cargo bay of an Air Canada jet just ten miles from the aircraft's destination airport. Reference states "the Air Canada jet was saved by the Haylon, injected into the cargo bay under the pressure of inert nitrogen gas. . . . In the B767-300, three Haylon bottles are plumbed to combat a fire in either the forward or aft belly hold. Bottle 1 is supposed to extinguish the fire. After a 30-minute delay in flight, the Haylon stored in bottles 2 and 2A is metered to provide 195 minutes of ongoing fire "suppression" with a three-percent (only) concentration of Haylon. In the case of the B767-300, bottles 2 and 2A not only long-term sprinkle-supplement the Number 1 bottle during the remainder of the flight, they are rigged to wholly discharge immediately upon landing, regardless of the time delay."

As discussed with the Examiner, A02O0123 does not disclose or teach a fire suppression system for use in an aircraft having an air cargo compartment wherein a fire suppressant is discharged into the cargo compartment at a first discharge rate upon activation of the fire suppression system, then the fire suppressant is discharged into the cargo compartment at a second discharge rate less than the first discharge rate, and the fire suppressant is discharged into the cargo compartment at a third discharge rate greater than the second discharge rate during descent of the aircraft. Instead, A02O0123 teaches a fire suppression system having three Haylon bottles, the first of which is supposed to

"knock down the fire," and after a 30-minute delay in flight, the Haylon stored in bottles 2 and 2A is metered to provide 195 minutes of ongoing fire "suppression" during a flight. The reference further discloses dumping of the remaining Haylon from the bottles when the aircraft has landed, which is clearly not "during descent." The reference provides no discussion, teaching or suggestion of varying the discharge rates, and particularly using a different discharge rate during descent. Accordingly, the reference does not teach or suggest varying the discharge rates during descent, which would compensate for the changes of pressure and temperature in the cargo hold during the descent, as is provided by the present invention. There is no teaching or suggestion of such a modification of the fire suppression system. The only disclosure of such a configuration is provided by the present application. Any modification to the teachings of the A02O0123 reference would only be apparent after understanding the present invention and applying impermissible hindsight analysis. Therefore, the pending claims are patentable over the reference and are in condition for allowance.

Claims 27-35 are directed to a method of suppressing a fire condition in a cargo compartment of an aircraft. More particularly, claim 27 is directed to a method that includes, *inter alia*, detecting a condition in the cargo compartment during flight of the aircraft, delivering a first quantity of fire suppressant into the cargo compartment at a first discharge rate, delivering a second quantity at a second discharge rate less than the first discharge rate after delivering the first quantity of fire suppressant, and delivering a third quantity of the fire suppressant into the cargo compartment at a third discharge rate greater than the second discharge rate and during descent of the aircraft. As discussed above, the A02O0123 reference is silent with respect to delivering a third quantity of fire suppressant at a third rate as claimed during descent of the aircraft. Therefore, claim 27 and its dependent claims are patentable over the applied reference.

Claim 33 is directed to a method of suppressing a fire condition in the cargo compartment of an aircraft wherein a first volume of fire suppressant is delivered into the cargo compartment upon detection of the fire condition to provide a first concentration of

the fire suppressant in the cargo compartment. A second volume of the fire suppressant is delivered into the cargo compartment after delivery of the first fire suppressant to provide a second concentration level of the fire suppressant in the cargo compartment. A third volume of fire suppressant is delivered into the cargo compartment during descent of the aircraft to provide a second concentration level of the fire suppressant substantially throughout the descent of the aircraft. The A02O0123 reference is silent with respect to such a method of suppressing a fire condition, particularly during descent of the aircraft. Therefore, method claim 33 and its dependent claims are patentable over the applied reference are in condition for allowance.

Claims 9-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over A02O0123. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Applicant respectfully submits for the reasons set forth above that the reference does not teach or suggest the fire suppression system as claimed.

Claim 9 is directed to a fire suppression system that includes first and second vessels containing fire suppressant. A first flow control device is coupled to a first vessel and positioned to control a first flow fire suppressant into the cargo compartment at a first discharge rate. A second flow control device is coupled to the second vessel and positioned to control a second flow of fire suppressant into the cargo compartment along with the flow of fire suppressant from the first vessel. The first and second flows of fire suppressant are combined for simultaneous discharge into the cargo compartment at a second discharge rate greater than the first discharge rate during descent of the aircraft.

The Examiner acknowledges that the reference does not disclose each element of claim 9. The Examiner states that "it is recognized that the increasing rate of release

during a second discharge compared to an initial release, would be within the scope of one of ordinary skill in the art and therefore obvious. The Examiner, however, provides no basis or support for this statement. Accordingly, the Examiner has not established a *prima facie* case of obviousness. Therefore, Applicant respectfully submits that claims 9-13 are patentable over this cited reference and requests withdrawal of the rejection.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0665, under Order No. 030048111US from which the undersigned is authorized to draw.

Dated: 11/9/05

Respectfully submitted,

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